STOPPING AIR POLLUTION AT ITS SOURCE

CAP

Clean Air Program

Responses To Public Comments: CAP Discussion Paper

Ontario
Environment
Environnement
Jim Bradley, Minister/ministre

CAP DISCUSSION PAPER

"Stopping Air Pollution at its Source"

PUBLIC COMMENTS

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PUBLIC COMMENTS:

In November 1987, the Ministry of the Environment released a discussion paper on a new Clean Air Program for Ontario, and invited the public to comment. The wide-ranging comments received from the review of the discussion paper will be summarized here. As well, indication of how the comments were dealt with in developing the draft regulation for the Clean Air Program are provided.

The draft regulation of the Clean Air Program is available from the Ministry of the Environment. The draft contains several appendices which describe procedures and protocols in detail. These appendices are referenced here and briefly described. For further detail on the appendices, please obtain a copy of the draft regulation of the Clean Air Program from the Communications Branch of the Ministry of the Environment, located at 135 St. Clair Avenue West, Toronto, Ontario M4V 1P5.

A large number of individual comments impacting on different portions of the proposed regulation were received. They have been divided into subject areas as follows:

1. SCOPE OF REGULATION
2. PUBLIC PARTICIPATION
3. PROCESS OF IMPLEMENTATION
4. GENERAL FORM OF REGULATION
5. GENERAL CONCERNS
6. COST CONCERNS
7. STANDARD SETTING
8. CLASSIFICATION SYSTEM FOR LEVEL OF CONTROL
9. LEVEL OF CONTROL
10. DETERMINATION OF ALLOWABLE EMISSION LIMITS AND OPERATIONAL PROCEDURES
11. MODELLING
12. CERTIFICATES OF APPROVAL

13. CONTINUOUS EMISSION MONITORING AND AMBIENT MONITORING

14. VISIBLE EMISSIONS

15. *De minimis* SMALL SOURCE DESIGNATION LIMITS

For each subject area all of the comments received have been summarized in a few brief questions or suggestions. These are followed by a Ministry response.

1. SCOPE OF REGULATION

Many of the 97 written submissions to the Minister supported the general concepts of the Clean Air Program (CAP) and the need to update the general air pollution regulation (Regulation 308). There were also submissions which did not support the program, or offered only limited support for the proposals. In general, many comments from industry questioned the need for government involvement in specific sectors, while the general public felt there should be greater involvement by the government. Consequently many of the questions focused on why certain issues were, or were not, addressed.

1.1 Why are automotive sources, landfill sites, road dusts, soils and various types of fugitive emissions not included?

The goal of CAP is to reduce air pollution from stationary sources. Automobiles are covered by Regulation 311 which is currently under separate review. Landfills, roads, soils and fugitive emissions are included in the modelling requirements of the CAP program.

1.2 Global issues like the greenhouse effect and destruction of the ozone layer should be addressed.

Ontario has a role to play in global environmental protection. The Ministry takes global effects into account in the evaluation of contaminants (i.e. establishment of Level of Concern). It should be noted that global issues are also being addressed through other Ministry programs. Bill 218 received Royal Assent on June 20, 1989 and is now formally Part V-A of the Environmental Protection Act. The intent of this Bill is to phase out ozone-depleting substances known as chlorofluorocarbons (CFCs). The CFC law empowers the province to ban categories of uses for ozone-depleting substances. Two sets of regulations have been passed, controlling the use of CFCs in aerosols, rigid foam packaging,

insulation, and encouraging recycling of CFCs. During the summer of 1989 another regulation for cleaner air required all Ontario refineries to deliver gasoline formulated with lower quantities of volatile organic compounds (VOCs). The VOC changes will reduce smog by reducing the evaporation of ozone-forming VOCs from filling station pumps and automobile fuel tanks. This regulation will again be in effect for the summer of 1990.

Under our Countdown Acid Rain program the four major sources of acid rain in Ontario are required by 1994 to reduce their emissions of sulphur dioxide by more than 60%.

1.3 The goals of the Regulation may not be practically attainable.

The goals are the elimination of toxics, the maintenance of all contaminants below an effects level and continuous updating of the Certificate of Approval. It is the intention of the Ministry to attain them.

1.4 Land use conflicts are not addressed.

The goal of CAP is to eliminate toxics. The Ministry has several mechanisms to reduce land use conflicts: zoning through land use policies; the Environmental Assessment Act; and strict technical controls on conflicting uses. These are not addressed directly in the Clean Air Program, but it is the intention of the Ministry to (1) control emissions based on their known effects, (2) employ state of the art modelling in the estimation of effects, and (3) insist on renewal of the Certificate of Approval to reflect up-to-date developments in emission control technology. Thus, with time, land use conflicts will be considerably reduced.

1.5 Odours are not addressed.

Odours will be addressed, in a manner similar to other contaminants, by setting standards which reflect the odour impact of the contaminant or mixture of contaminants. The proposed method to control odours is addressed in Appendix 6 of the draft Clean Air Program.

2. PUBLIC PARTICIPATION

The submissions contained overwhelming support for public participation in standard setting. However the differences arise when examining the more specific questions: at what stage does public participation begin; who represents the public; and what

role will the public have. Public interest groups favoured representation from concerned citizens, environmental groups and regional local representatives. Industry, in general, favoured representation from industrial sector based subcommittees, academia and representation from consultants. Industry expressed the view that public representations should review the standards once they have been developed, leaving the actual standard development to those with the scientific knowledge and skill. They were concerned about public participation delaying the process of reviewing information and determining standards which are needed for a certificate of approval to be issued. It was also suggested that industrial representation begin before the proposals become law. Some of the respondents specifically expressed an interest in ensuring an ongoing consultation process to guide future policies and regulations related to the reduction of toxics in air.

2.1 More attention should be paid to public input at every step of the regulation development and implementation process.

The Ministry of the Environment will continue discussions with all interested parties in the development of the regulation and in its subsequent implementation. The Ministry welcomes input and attempts to incorporate it into the process. Public comment during the development of case specific limits will be guided by the Ministry's policy of public consultation which is available from the Communication Branch of the Ministry of the Environment.

2.2 The public should be represented on the Environmental Air Standard Setting Committee (EASSC).

It is the intention of the Ministry to revise the standard-setting process to a more comprehensive process of setting air quality standards and chemical-specific regulatory strategies, including any necessary consultation. EASSC has been replaced by an internal technical committee which will prepare technical documents. The technical documents will be submitted to an independent advisory committee which will seek public input in the development of provincial environmental standards. This 12-member Advisory Committee on Environmental Standards (ACES) will consult the public on proposed standards and standard-development procedures before presenting its recommendations to the Minister. ACES gives the people of Ontario a regular voice in the formulation of the environmental standards and guidelines for the province.

2.3 Extensive public input is required for the Certificate of Approval process.

The Ministry of the Environment will consult with the public on the Certificate of Approval process, consistent with the Ministry policy on public consultation.

3. PROCESS OF IMPLEMENTATION

Of significance to any new program is the implementation plan employed. The CAP document proposed that the phasing-in of requirements for new certificates of approval would take place over a number of years and would require a set of rules related to a number of topics, including:

- o certificates of approval for new facilities and for facilities under construction;
- o application of the proposals to existing facilities;
- o control orders/Provincial Officers' reports and problem areas;
- o supplementary control programs;
- o very small sources.

Contributors representing the public interest groups insisted that 5 years was too long in the case of Level 1 and Level 2 sources. One group stated that monetary penalties should be established to ensure compliance within this length of time.

Industry groups suggested that the program should be implemented over a long time period with analysis of the impacts of each stage. Industry-based comments unanimously expressed the opinion that a 5 year phase-in period for Level 1 and Level 2 contaminants was unrealistic. A variety of reasons were provided supporting this position:

- o the amount of work required to produce the toxicity classification system and the emission limitations;
- o the equipment life-cycle which was identified as being anywhere from 10 to 20 years or more;
- o the absence of adequate control technology to meet the types of requirements demanded;
- o the amount of time it takes to get a major facility from the drawing board to the point of production.

In general the questions which related to implementation of CAP addressed time-frames, phase-in approaches, and information flow.

3.1 The MISA industrial sector approach should be utilized.

The industrial sector approach is not as appropriate to air emission control as to liquid effluent control owing to the multiplicity of sources and similarity of control devices across sectors.

3.2 A phased approach should be used based on contaminant priority.

The Ministry of Environment proposed such an approach in the CAP document. It is the intention of the Ministry to use such an approach.

3.3 The 5-year phase-in period is too short.
3.4 The 5-year phase-in period is too long.

The Ministry of the Environment recognizes the major economic and resource impact the Clean Air Program will have. However, the Ministry believes that the environmental benefit of the program will outweigh the costs. The Ministry has therefore opted for a phased implementation of the program which will bring immediate improvement in the air quality of Ontario and allow industries sufficient time to implement the necessary control technologies. The Ministry has proposed to phase-in the program on an environmental priority basis, over ten years.

3.5 Public education programs are needed.

The Ministry of the Environment has ongoing public education programs which will be amended to incorporate the products of CAP at the time it is promulgated. In addition, the Ministry has developed a comprehensive public consultation plan. This program will provide information to all parties, and provide opportunities to comment on government decisions. Environment Ontario regularly uses the following activities to support its public consultation goals: public meetings; open houses; workshops; public advisory committees and public liaison committees; public discussion papers and calls for submissions; and toll-free telephone lines.

4. GENERAL FORM OF THE REGULATION

The discussion document raised varied concerns about methods of compliance and the results of non-compliance. In particular, the treatment of facilities which are deemed to be out-of-compliance and the rules which will apply in areas where existing ambient air quality is identified as being unsatisfactory produced comments from a number of industry representatives and groups.

4.1 In areas which are "out of compliance", how are existing source cut-backs apportioned, and how are new sources handled?

The Ministry of the Environment is concerned about the overall air quality. In areas where the ambient air standard cannot be maintained, industries will be asked to cooperate to cut back emissions. CAP proposes that in these areas, non-attainment remedial strategies (NARS) will be implemented based on discussions with existing sources. In certain areas new sources will have to assure the Ministry that their contribution will not exceed the ambient air standards.

4.2 How is source audit to be achieved?

The Ministry of the Environment will use a combination of criteria, guidelines scientific and engineering judgment, and random sampling to verify information provided by proponents.

4.3 How are facilities which are "out of compliance" dealt with?

When a facility which is "out of compliance" seeks a (renewable) Certificate of Approval to operate, it will be required to upgrade to meet standards.

4.4 How will facilities with existing Control Orders be handled?

Facilities with existing Control Orders will be subject to the procedures for obtaining Certificates of Approval to operate in the same manner as other sources and thereby, may be required to update their technology controls. Until such time, the existing Control Order will remain in effect.

4.5 There is no need to distinguish between existing and new facilities; each should be required to obtain Certificates of Approval under the new regulation.

4.6 There is a strong need to distinguish between existing and new facilities.

Both existing and proposed facilities will eventually need new Certificates of Approval to operate. The only distinction will be that existing facilities will not be required to obtain Certificates of Approval to construct.

4.7 The conditions under which supplementary control would be allowed are unclear.

Conditions will be specified in the regulation. Supplementary control has confirmed its usefulness as a control mechanism under certain circumstances.

5. GENERAL CONCERNS

The public review of the CAP discussion paper consisted of 97 submissions, 23 public meetings in 20 cities, 16 meetings with industry, a workshop, and meetings with 3 other government groups.

Although most of the submissions supported the general concepts of the CAP program and the need to update the general air pollution regulation, some did not support the program, or offered only limited support for the proposals. Some examples of the comments made in these submissions include:

- lack of a demonstrated need to employ radical changes;
- belief that technical changes to the existing legislation could cope with the majority of observed problems;
- suggested changes were being made merely because of technological innovations;
- perceptions that the government was introducing the proposals in order to appear as the most stringent agency;
- recognition of needs other than environmental concerns which governments and industry must meet, and other environmental programs which were demanding attention from stakeholders.

Contrasting such observations were a number of statements which reflect on the objectives and direction of the program:

- o awards should be given to companies for exceptional pollution control;
- o the public sector should lead the way;
- o public education programs should be developed;
- o this new proposed program would make Ontario more compatible with the Canadian Environmental Protection Act.

This broad range of comments received makes it difficult to summarize all of the comments under specific headings. Some of the comments and questions were of a general nature and have been summarized below.

5.1 How will confidentiality of information be guaranteed?

The Freedom of Information and Protection of Individual Privacy Act states that all information under government control should be available to the public, unless the public's access to that information is specifically restricted by the terms of the Act. With respect to third party information the Act states, "A head shall refuse to disclose a record that reveals a trade secret or scientific, technical, commercial, financial or labour relations information, supplied in confidence implicitly or explicitly, where the disclosure could reasonably be expected to:

(a) prejudice significantly the competitive position or interfere significantly with the contractual or other negotiations of a person, group of persons, or organization;

(b) result in similar information no longer being supplied to the institution where it is in the public interest that similar information continue to be so supplied; or

(c) result in undue loss or gain to any person, group, committee or financial institution or agency.

The Clean Air Program will follow this legislation.

5.2 The Ministry should provide an incentive for exceptional pollution control.

The Ministry encourages the development of innovative methods of control through various programs including those research programs administered by the Ministry's Research and Technology Branch.

5.3 The need for bottom of the stack controls has not been justified.

The emission of contaminants to the atmosphere is not a right. It is the responsibility of sources of emissions to implement controls based on potential rather than demonstrated effects.

5.4 Economics should play a greater role in the process.

For contaminants which are associated with potentially severe environmental impact or detrimental health effects, the Ministry can find no justification for considering economics in establishing appropriate maximum emission rates. The severity of these contaminants dictates that they should be controlled, regardless of economic costs. For other contaminants, economic factors will be taken into account to varying degrees.

The Ministry commissioned an economic study which was completed by James F. Hickling Management Consultants in 1990. The study concluded that CAP could put Ontario at a competitive disadvantage. However, any such competitive advantage in other jurisdictions would be short-lived. All jurisdictions are moving in the direction of increased regulation of toxic effluents. For further details on this study please refer to section 6.2 below.

5.5 What are the anticipated enforcement measures?

A Certificate of Approval to operate will include conditions such as maximum emission rate, operating parameters, and monitoring requirements. Breaches of these conditions will constitute grounds for investigation leading to possible changes.

5.6 Start-up, shut-down and emergencies should be exempted from strict compliance with the regulation.

Emergency continency plans and works such as bypass stacks and vents should be designed to ensure compliance with the Air Quality standards at all times. Catastrophic failures and malfunctions are the subject of Part IX of the Environmental Protection Act. Start-up and shut-down constitute part of the operational process for the facility and therefore fall within the scope of the regulation.

5.7 Concern was expressed over conflict between the proposed regulation and other legislation.

The regulatory package which is being produced under CAP will be general in nature. As such it will not take precedence over any specific regulations. It should be noted however that specific regulations frequently do not cover the range of subjects covered by CAP and in these areas the provisions of the proposed regulation will apply.

6. COST CONCERNS

Some of the submissions expressed concern over the costs of complying with the proposals. There were submissions which referred to the National Task Force on Environment and the Economy and asserted that "sustainable development" meant that environmental protection must be limited by the desire of industry to expand. Some industry submissions suggested that, in the short term, the costs of such proposals might discourage investment and freeze growth; and in the long term, that there would be a competitive disadvantage for Ontario industries. This latter concern was mentioned in particular by those companies competing in U.S. or world-wide markets. The issue of free trade was mentioned by many discussants at meetings and in written submissions. In general, industry representatives emphasized the importance of "a level playing field" approach.

Specific questions related to the lack of funds on the part of small companies to install pollution control equipment, with the suggestion that this could lead to a significant number of plant closures and loss of jobs. The question of tax breaks, grants and incentives was raised by several contributors, while others suggested that changes would require a longer phase-in period, even for large operations, to allow for self-financing. One submission suggested that Ontario should use this opportunity to examine the question of pollution rights and economic penalties.

The various concerns over cost led to a number of submissions offering suggestions pertaining to socio-economic studies. The process for undertaking socio-economic studies was discussed by several contributors. The concept of doing the study by way of a multi-partite committee, with review by all stakeholders including the public, was supported.

A summary of comments/questions related to cost concerns has been provided below.

6.1 A balance is needed between pollution control and economic growth.

A study which provides an economic evaluation of the proposed changes to the air regulations suggests that the benefits will far exceed the costs. Appendix 1-2 of the draft regulation of the Clean Air Program summarizes this study. As well, the importance of jobs in the environmental sector cannot be ignored in today's world market. In a study commissioned by the Ministry of Environment, Woods Gordon Management Consultants reported that the Ontario environmental protection industry is the source of an estimated $2 billion in annual sales and 28,000 jobs. In terms of private sector employment alone, the environmental protection industry ranks with the clothing and wood products industries, according to the report.

6.2 Ontario industry would be at a competitive disadvantage in world markets.

The measures which have been proposed to deal with air emissions in Ontario under the Clean Air Program are consistent with those employed in various States of the U.S. Ontario's air quality is a precious resource and the government intends to see that its quality is preserved.

A study prepared for the Ontario Ministry of the Environment by James F. Hickling Management Consultants Ltd. in 1990 concluded the following:

> **"There are differences between Ontario and the States examined in the toxic pollutants regulated and the extent to which they are regulated and enforced. In particular cases, it is conceivable that these differences might give rise to a competitive advantage in the jurisdictions with the less-stringent regulations. However, any such competitive advantage would be short-lived in that all jurisdictions are moving in the direction of increased regulation of industrial toxic effluents. To reap the benefits of such an advantage, be it in Ontario or a State, a company would have to be able to move and re-establish itself quickly in the new jurisdiction."**

The study further states,

> **"One important piece of legislation in the House of Representatives contains a list of 187 air toxics. EPA would be required to establish control requirements for categories of sources of these pollutants within seven years. Another important piece of legislation in the Senate would require control requirements to be established for 11 specified chemicals within 18 months of enactment and an additional 213 chemicals within a ten-year period. These chemical lists are more comprehensive than the list in Regulation 308".**

6.3 Small industrial operations may be forced out of business.

The costs of pollution control are relatively small compared to other costs of doing business. Where an industrial emission is very small, the source will be required to meet ambient standards, but it will not be required to meet emission technology requirements. It is possible that small operations will have to seek professional assistance in preparing applications for Certificates of Approval in much the same way that the services of lawyers and accountants are required to deal with other matters.

7. STANDARD SETTING

The submissions contained various suggestions regarding the parameters to be used for setting standards. The reviewers suggestions included establishing the ambient air quality criteria according to: environmental effects such as the greenhouse effect; the changing resistance of the human body; all routes of exposure including all environmental sources; the absolute mass or quantity of pollutants emitted; human health or the most sensitive species that could be adversely affected; scientific evidence and demonstrated environmental needs, not according to subjective assessment; the best toxicological, medical and other scientific data; the idea that exposure may not occur where sensitive animal or plant life is located; validated criteria; economics and political implications; cost/benefit analyses; land use; the temperature and pressure of the processes involving the contaminant; monitoring studies; and identification of the environmental hazards.

7.1 A wide range of suggestions regarding the basis for standard-setting (human health, global environmental impact, biochemical changes in the body, the most sensitive species affected, etc.) were received.

The basis for standard-setting is, and will continue to be, the most limiting adverse effect. Therefore, all of these are considered.

7.2 The precise standard-setting methodology should be defined.

The Ministry has drafted a new, comprehensive process of setting air quality standards and chemical specific regulatory strategies. The development of Air Quality Standards (AQS) is based on various criteria (eg. health, vegetation, etc.) and other appropriate considerations. Further details of this process can be obtained in Appendix 6-1 of the draft regulation of the Clean Air Program.

7.3 Risk assessment should be the basis of all standard-setting.

The Ministry of the Environment sets standards based on the lowest effect level where possible. However, in the case of contaminants with no threshold level of effect, i.e. even small doses have the potential for effects, the Ministry has used risk assessment approaches. The ACES approach, previously referred to in 2.2, will permit all points of view to be considered in the technical review.

7.4 The government standard-setting process is far too slow.

Industry groups and interested parties both indicated that they want to be involved in the standard setting process. Through ACES the public, industry and other agencies will be consulted on proposed standards and standard development procedures. In addition, measures have been taken to improve the quality and speed of the existing standard-setting process. These measures will be incorporated into the draft regulation.

7.5 Industry cannot afford to assist in standard-setting.

Any industry which wishes to release emissions into the atmosphere must take responsibility for those emissions. Both the public and industry will be given the opportunity to provide input into standard setting, but it will be the Ministry which sets the regulations and guidelines. It is hoped that both the public and industry will be able to contribute to all aspects of the standard-setting process, particularly in areas where they have special expertise.

8. CLASSIFICATION SYSTEM FOR LEVEL OF CONTROL

Several groups and individuals expressed general support for the overall strategy of classifying contaminants and matching level of control with the level of

environmental hazard of the contaminant. However, there were arguments made for the different number of control levels.

For 4-level systems, one suggestion was that the lowest concern level should include normal non-hazardous constituents of the air. Another suggestion was that this level be called "Below Current Regulatory Concern".

There was general agreement with the Ministry's 3-level system that the levels contain high, medium and low hazard chemicals respectively.

There were some suggestions for having a 2-level system. In these suggestions Level 1 would contain high scoring pollutants, pollutants having global or regional impact and/or all contaminants, unless sufficient data is available to establish that such controls are unnecessary to protect health and/or the environment. Level 2 would contain medium and low scoring pollutants.

One comment suggested the establishment of an "Independent Health Priority Performance Standard" category. This category would contain contaminants with known health effects and would be considered on this basis regardless of the economic inconvenience to the proponents.

Generally, non-governmental organizations and organizations experienced with health issues advocated the two-level control strategy outlined in the discussion paper. Most industry preferred more than three levels.

Other, more specific comments included:

8.1 Process is arbitrary.
8.2 Process is massive.
8.3 Process is simplistic.
8.4 Process has not been adequately described.

Since the publication of the Discussion Paper, the Ministry has changed the classification process considerably in order to incorporate comments made by contributors and produce an improved system. To make the task manageable and to focus on the most important air pollutants first, a CAP target list was developed for classification. Three methods of classification were then developed, using toxicity and environmental behaviour parameters as the basis of classification. The description of this system is included in Appendix 6-1 of the draft regulation of the Clean Air Program.

8.5 Industry prefers three or more levels/ advocacy groups prefer two.

A 3-level system will be used to provide environmentally sound control of high concern substances, substances likely to have an impact under certain conditions, and nuisance contaminants. It is necessary to have a 3-level system to take into account this large range of contaminants and effects.

9. LEVEL OF CONTROL

The Ministry of the Environment outlined several options for the implementation of control technology. The main concept proposed was to scale the required pollution control to the environmental hazard presented by the contaminants emitted. Two alternatives were given, one in which there were three categories of control stringency, and one with two levels of control. Questions and comments pertained to specific categories and the overall concept.

9.1 The amount of contaminant being emitted should be a factor in determining the level of control.

Emitters of contaminants that contribute to adverse ambient air quality must apply the appropriate control technology. In assessing the Level of Control to be used for a particular facility, controls will not apply to very small sources. Above this Small Source Designation Limit, there exists the potential for adverse effects and quantity of emission will not be a factor in deciding Level of Concern and hence Level of Control.

9.2 There should be a "zero emissions" category, i.e. the lowest achievable emission rate may be insufficient to adequately protect the environment.

For certain contaminants the lowest achievable emission rate may indeed be a zero level.

9.3 LEVEL 1 CONTROL may not be achievable - what is the regulatory impact on the proponent?

By definition, LEVEL 1 CONTROL limits emissions to concentrations that have been committed to "anywhere in the world". There is the assumption in this definition that such a level is attainable even though the cost may be substantial.

The Ministry is committed to virtual elimination of such hazardous compounds through the reduction of these chemicals to their lowest possible concentration.

9.4 The economic criteria for establishing LEVEL 2 CONTROL levels must be spelled out.

The emission limitations for a number of contaminants will be established in the legislation at the time of promulgation. For substances not listed, the Ministry has identified a process for undertaking evaluations (see Appendix 7-2 of the draft regulation of the Clean Air Program). The results of such evaluations will be incorporated into the emission limitation lists.

9.5 There is no need for the regulation to specifically require LEVEL 3 CONTROL of emissions if air quality standard is being met.

Under the proposed regulation, the Ministry will be using control technology as the "first line of defence". Therefore, even if air quality standards are being achieved, emission control will still be required. The Ministry believes that all emitters should be controlled.

9.6 LEVEL 1 sources will constantly be required to upgrade control technology.

It is the duty of the Ministry of the Environment to ensure that the emissions of chemicals to the atmosphere are limited to protect and enhance human health, waterways, croplands and the quality of the environment in Ontario. To accomplish this we will require Level 1 sources to be updated.

10. DETERMINATION OF ALLOWABLE EMISSION LIMITS AND OPERATIONAL PROCEDURES

Included in some of the submissions were concerns pertaining to guidelines for conducting a technology review. Such questions as: how would limits be determined; which jurisdictions should be included in a world-wide information search; and what format would the emission limit have to be presented in.

10.1 Guidelines are required for technology review to determine the maximum allowable emission rate for each contaminant and for each process.

Guidelines are provided which will enable proponents to group contaminants for the purposes of technology review. (see: Appendix 7-2 of the draft Clean Air Program.)

10.2 Support and opposition was expressed for each of five options for derivation of limits identified in the Discussion Paper.

10.3 Several hybrid options were recommended.

The responses have been examined and it has been determined that a combination of Ministry of Environment standards, and reviews undertaken by the proponent in the absence of adequate standards, represent the most satisfactory method.

10.4 The "bubble concept" should be used for deriving a cumulative loading for an airshed.

The "bubble concept" refers to an emission threshold for a given geographical area and permits emission trading. It is not being used by the Ministry of Environment because it implies a right to pollute. Protection of airshed loading by multiple sources is provided through the use of air quality standards and multiple source modelling requirements.

10.5 Why should both emission limits and ambient standards requirements have to be satisfied?

The emission limits for a facility will be established in line with the philosophy that there is no right to emit contaminants to the atmosphere. Ambient standards are set to ensure that all the sources of contaminants collectively do not reach a level where an effect might occur. They are therefore mutually exclusive, and are both required to achieve the aim of the proposed legislation.

10.6 "Offsets" should be granted to companies in industrialized areas to allow for continued growth.

In areas where air quality is marginal, further control action will be required of all sources under Non-Attainment Remedial Strategies (NARS). It is anticipated

that these will permit necessary growth to occur. The concept of offsets is not consistent with the CAP philosophy: there is no right to pollute.

10.7 Averaging time used for emission rate determination is a concern.

Short averaging time will be used for emission rate determinations to reflect the potential for acute and immediate effects.

11. MODELLING

The question of how the modelling package would be included in the legislation was frequently commented on. Some groups felt that it would be difficult to make changes to the models if they are included in the regulation. On the other hand, some industries stated that the use of diskettes in the regulation would make it too easy for the Ministry to alter the model code without consulting the users of the models. It was suggested that the Ministry of the Environment provide a recommended model but users be allowed to choose other models when submitting material for a certificate of approval. Some industries suggested that modelling be used only as a guideline and not be used to reject a certificate of approval.

Several contributors indicated that if ambient air monitoring indicates lower concentrations that predicted by the proposed modelling package, then there should be a mechanism whereby the monitoring data takes precedence.

11.1 Models are too complex.
11.2 Models are simplistic.
11.3 Models are too conservative.

The models in the proposed regulation will use the most recent scientific approaches; they will incorporate atmospheric physics and chemistry in a validated fashion and yet remain practical for routine regulatory use.

11.4 The choice of model should be up to the proponent.

Proponents can use their own models. However, in evaluating the results, the Ministry will use the modelling package outlined in the regulation. If the proponents result is lower they will have to justify why their modelling approach is more accurate.

11.5 Monitored data should take precedence over modelling results.

Both monitored data and modelled data will be used judiciously. However, monitors frequently do not capture maximum ambient levels or incorporate the influence of a new or modified source. This is not the case for modelled data. The use of monitoring will provide quality assurance and support for modelling.

11.6 Support and criticism of physical modelling.

There are certain conditions under which mathematical modelling will produce an overly conservative result. Proponents will have the option of choosing either the conservative modelling approach or physical modelling under these conditions. Further elaboration is provided as part of the modelling package of the proposed regulation. (Appendix 8 of the draft regulation of the Clean Air Program.)

11.7 Multisource modelling using simultaneous maximum emissions from each source is questioned as being unrealistic.

Where maximum concentrations can occur simultaneously the Ministry assumes maximum emission rates because these constitute the air hazard potential of the facilities. The proponent can use "time of the day" and "day of the week" variations in their emission, but these will then appear as emission limits on the Certificate of Approval.

11.8 Many questions on air shed modelling and the availability of emission data were submitted.

To ensure that ambient air quality standards are met all sources must be considered. The Ministry will initiate a source registry and emission inventory for the compounds listed in Appendix 2 of the draft Clean Air Program. Appendix 8 of the draft Clean Air Program describes how this emission data would be coupled with monitoring data to estimate ambient air loadings.

11.9 Supplementary controls should be an allowed method for meeting air quality standards.

For new sources supplementary controls will only be permitted for level 2 and 3 compounds, if the proponent uses a higher level of control on emissions (ie. level 1 or 2 controls for a level 3 compound).

11.10 Guidelines for modelling are required.
11.11 Many questions on model specifics.

Detailed guidelines will be supplied to enable proponents to undertake modelling.

12. CERTIFICATES OF APPROVAL

Several proposals were outlined in the CAP document concerning the certificate of approval process. This process is defined in the Environmental Protection Act and uses the calculations and standards contained in Regulation 308 and its appendices. The following major changes were suggested:

- o use of a two-part certificate of approval, with operating requirements in addition to the existing equipment requirements;
- o making certificates to operate renewable, with a suggested re-examination every ten years from the date of original approval and at subsequent ten-year intervals;
- o permitting Directors to request more frequent reviews under special circumstances;
- o including monitoring requirements on certificates of approval to operate.

A number of industry-based groups raised the issue of the time that was currently required to obtain a certificate of approval to operate.

12.1 Delays in obtaining the C of A will be lengthened beyond what they are now.

The Ministry is attempting to reduce the amount of time for obtaining Certificates of Approval. The proposed regulation will be administered in a way which will optimize resources.
The Ministry has also addressed this concern through the addition of staff to the Approvals Branch in the past year.

12.2 Small sources should be exempt from C of A's.

Sources falling within the Small Source Designation Limits will be exempt from the requirement to obtain a certificate of approval. However, they will be subject to registration requirements and should the Ministry decide that controls are justified to protect community air quality these will be required under separate measures.

12.3 Decentralization of the approval process recommended.

The Ministry has already decentralized certain approval functions. For simple cases an extension of this approach will be possible.

12.4 Review period (i.e. lifetime of C of A) should be twenty years; perhaps renewal should only be required in cases where technological advances have occurred.

12.5 Review period should be no more than 5 years.

The Ministry has assessed the review period and concluded that renewals should occur on a ten year basis.

12.6 Provision should be made for circumstances requiring changes in technology where no economically viable solutions are available.

Consistent with the Ministry's objective of reduction of hazardous emissions into air, Level 1 control technology does not consider economics; only Levels 2 and 3 control technologies allow for economic impact.
To encourage development of technological support for programs such as the Clean Air Program, Ontario will spend $30 million over the next five years to stimulate research into new products and processes that protect the environment. The Environmental Technologies Program (ETP) will fund up to 50 per cent of projects proposed by Canadian companies, universities, research organizations, municipalities, conservation authorities or public interest groups, to a maximum of $500,000 per year for a maximum of three years. The money is to help cover costs of researching, developing, and testing the product or process.

12.7 Both parts of C of A should be issued simultaneously.

The proponent will be required to submit an application for a two-part Certificate of Approval, providing adequate information to the Ministry for construction and to operation of the control technology. The Ministry will attempt to deal with the applications as expeditiously as possible.

12.8 Ambient monitoring should not be required where LEVEL 1 controls have been installed.

The Ministry is concerned not only with the design of control technology for emissions to the atmosphere but also with its proven operation and potential effects on community ambient air. Ambient monitoring along with continuous emission monitoring of process parameters will be required to provide this information.

12.9 Exemptions requested for experimental facilities, emergency release systems, emissions resulting from control of work environments, highway construction.

Specific sources such as highway construction, fire-training, etc. will be regulated through Codes of Practice. Adherence to these Codes will be required through specific provisions. Emergency release systems and experimental facilities (except for specific small laboratory facilities) will require appropriate controls and will be subject to the full approval process.

13. CONTINUOUS EMISSION MONITORING AND AMBIENT MONITORING

In the CAP proposals, various monitoring programs were recommended to establish compliance with the regulation and associated standards. For LAER sources the installation of continuous monitoring systems (with recording abilities) which reflect process operating conditions and/or maintenance of the emission controls, was recommended, together with stack testing within six months of start-up and at subsequent intervals of not more than twelve months. In the case of BACT-EA sources, continuous monitors were again suggested, with stack testing within six months of start-up and subsequently at the Director's discretion at intervals of 12 months or more.

The subject of continuous emission monitoring was one in which industrial representatives were united in their general opposition, and public interest groups, members of the public and government agencies were united in their general

support. Opposition to the concept of requiring such monitoring of LAER and BACT-EA sources was based on a number of grounds including cost, reliability and amount of downtime, impracticality, and lack of necessity. Support for the concept indicated that such monitoring requirements were consistent with environmental needs, and should not be dependent upon cost factors.

Suggestions on compliance requirements for continuous emission monitoring were also clearly divided between the public and industry groups. Public comments suggested a set format for reporting requirements; records to be available to the Ministry within set time periods (three months was indicated); computerized inventories; placing operating criteria on certificates of approval and random site inspection and verification of equipment. Industrial representatives reflected the view that the equipment is unreliable and the expressed the opinion that compliance requirements should be very liberal, and that such things as equipment breakdown and malfunction should be tolerated.

13.1 Continuous emission monitoring is costly, impractical and unnecessary.

13.2 The criteria for C.E.M. is unclear.

In its proposals the Ministry did not specifically require continuous emission monitoring (CEM). The Discussion Paper referred to monitoring indicative of the process. In some instances this may include CEM, which the Ministry believes is effective and is the preferred route, if available. Monitoring is required to confirm day to day compliance of facilities.
The Discussion Paper stated that continuous monitoring of processes would be required for all LEVEL 1 (LAER) and LEVEL 2 (BACT) sources. The Ministry is still of the opinion that such monitoring is required for contaminants in these two levels. More specific protocols have been produced in association with the Draft Regulation. (Appendices 9-1 and 9-2 of the draft regulation of the Clean Air Program.)

13.3 Ambient monitoring should be done by M.O.E. through redesigned monitoring networks.

The primary objective of the Ontario air monitoring network is to provide data on ambient air quality distinct from source specific monitoring. The existing Ministry monitoring network monitors polynuclear aromatic hydrocarbons (PAH), volatile organic hydrocarbons (VOC) and dioxins throughout the province.

14. VISIBLE EMISSIONS

The Ministry of the Environment has proposed to adopt the same procedures as those specified by the U.S. Environmental Protection Agency for determining the opacity of visible emissions. Most of the comments on this subject were received from industry. Generally there appeared to be little objection to the plan, but there were some specific concerns.

14.1 Objection to the right to prosecute by trained members of the general public because of lack of objectivity.

Any trained observer whether employed by the Ministry of the Environment or not must be granted the same standing in terms of prosecutions. Courses to train observers in visible emissions are open to Ministry and non-Ministry personnel alike.

14.2 Arguments for additional leniency provisions since visible emissions are generally of short duration, have little impact on air quality and are often unavoidable.

The proposed measures to deal with visible emissions contain averaging provisions which allow for short term incidents. While it is true that violations of opacity limits may have a minimal impact, they are indicative of poor operating practice or poor equipment maintenance, and show the potential for exceedances of other criteria.

14.3 Continuous opacity monitors should not be required as extensively as proposed, but should only be required through specific Control Orders.

Continuous opacity monitors, like other continuous emission monitors, reflect the general performance of pollution control equipment. Therefore, they should be required.

15. *De minimis* (SMALL SOURCE DESIGNATION LIMITS)

Generally, regulated industries indicated strong support for the "*de minimis*" concept, while non-industrial commentators expressed concern over the application of it.

15.1 "*de minimis*" depends on subjective judgment.

The Small Source Designation Limit included in the draft regulation is based on the volume of contaminant emitted. Additional assumptions are objective inasmuch as they relate to air quality standards set on the basis of effects.

15.2 Rather than one *de minimis* level, several *de minimis* levels could be used to exempt from various requirements, e.g. modelling, stack testing, C of A renewals, etc.

The Ministry has considered this aspect carefully and decided that the Small Source Designation Limit consideration should only be used for emission control. Specific sources such as fire-training, controlled burning, and experimental facilities are regulated through codes of practice.

15.3 A *de minimis* level based on concentration in the exhaust equal to 100 times the air quality standard is too high.

15.4 A *de minimis* level based on concentration in the exhaust equal to 100 times the air quality standard is too low.

The Ministry has produced Small Source Designation Limits for a number of contaminants using a different technique from the one outlined in the Discussion Document. The list and the methodology used are to be found in Appendix 5-2 of the draft regulation of the Clean Air Program.

15.5 Arguments for the use of loading instead of concentration for determination of *de minimis* level.

The Ministry of the Environment is concerned that satisfactory air quality be maintained at all times. This requires use of short-term average concentrations rather than long term loadings for determining the Small Source Designation Limit/*de minimis* level.